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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/656,336

09/08/2003

Toshiaki Tsuda

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03/23/2006

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EXAMINER

RIELLEY, ELIZABETH A

ART UNIT

PAPER NUMBER

2879

DATE MAILED: 03/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/656,336	Applicant(s) TSUDA ET AL.	
	Examiner Elizabeth A. Rielley	Art Unit 2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 January 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

Amendment filed 1/6/06 has been entered and considered by the Examiner. Currently, claims 1-6 are pending in the instant application.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uemura et al (US 20020158580) in view of de Vrijer (US 4594529).

In regard to claim 1, Uemura et al ('580) teach an arc tube for a discharge bulb (1; figures 9 and 10; paragraphs 70-74) in which both ends of a light emitting tube inserting electrodes (1a1; paragraph 40) respectively are sealed and a closed space having the electrodes opposed to each other (see figure 1) and filled with a light-emitting substance (not shown in figures; paragraphs 4, 9, 42, and 59) with a rare gas for starting is provided in the light emitting tube (paragraph 42), wherein the light-emitting tube comprises translucent ceramics (paragraph 41) formed substantially cylindrically (see figures 1, 9 and 10) and has a ratio d/L of an outside diameter d to a whole length L ranging from 0.2 to 0.5 (Uemura's outside diameter is OD in figure 9, paragraph 75 has $OD = 6.5$ mm; whole length in $L+p2+p2$ figure 10, paragraph 75 has $L = 4.2$ mm and $p2 = 7$ mm; so the Applicant's " d/L " is Uemura $6.5/18.2 = 0.4$). Uemura

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continues to teach that both ends of the light emitting tube are sealed by pipes (3) with which the electrodes are fixed and held respectively (see figure 1). Uemura et al ('529) are silent regarding the limitation that the pipes are made of molybdenum. De Vrijer ('529) teaches such pipes (3; see figure 1) are usually made from molybdenum (column 3 lines 60-65) and therefore it would ease the manufacturing process of the arc tube to use molybdenum pipes since they would be readily available. Hence, it would have been obvious at the time of the invention to one of ordinary skill in the art to combine the arc tube of Uemura et al ('580) with the pipe material of de Vrijer ('529). Motivation to combine would be to ease the manufacturing process.

In regard to claim 2, Uemura et al ('580) teach the light emitting tube has a thickness of 0.25mm to 1.2mm (paragraphs 53-56 and 62).

Claims 3-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uemura et al (US 20020158580) in view of de Vrijer (US 4594529) and in further view of Uchiyama et al (EP 0859246).

In regard to claims 3 and 6, Uemura et al ('580) teach an arc tube for a discharge bulb (1; figures 9 and 10; paragraphs 70-74) in which both ends of a light emitting tube inserting electrodes (1a1; paragraph 40) respectively are sealed and a closed space having the electrodes opposed to each other (see figure 1) and filled with a light-emitting substance (not shown in figures; paragraphs 4, 9, 42, and 59) with a rare gas for starting is provided in the light emitting tube (paragraph 42), wherein the light-emitting tube comprises translucent ceramics (paragraph 41) formed substantially cylindrically (see figures 1, 9 and 10). Uemura continues to teach that both ends of the light emitting tube are sealed by pipes (3) with which the electrodes are fixed and held respectively (see figure 1). Uemura et al ('580) are silent regarding the limitation that the light emitting tube has a parallel ray transmittance of 20% or less and a

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whole ray transmittance of 85% or more, and the limitation that the pipes are made of molybdenum.

Uchiyama et al (EP 0859246) teach a light emitting tube (paragraph 48) that has a parallel ray transmittance of 20% or less (see figure 6) and a whole ray transmittance of 85% or more (paragraphs 46) in order to improve the viewing angle of the device (paragraph 1). De Vrijer ('529) teaches such pipes (3; see figure 1) are usually made from molybdenum (column 3 lines 60-65) and therefore it would ease the manufacturing process of the arc tube to use molybdenum pipes since they would be readily available. Hence, it would have been obvious at the time of the invention to one of ordinary skill in the art to modify the arc tube of Uemura et al ('580) with the transmittance of Uchiyama et al ('246) and the pipe material of de Vrijer ('529). Motivation to combine would be to improve the viewing angle of the device and ease the manufacturing process.

In regard to claim 4, Uemura et al ('580) teach a light emitting tube that has a ratio d/L of an outside diameter d to a whole length L ranging from 0.2 to 0.5 (Uemura's outside diameter is OD in figure 9, paragraph 75 has $OD = 6.5$ mm; whole length in $L+p_2+p_2$ figure 10, paragraph 75 has $L = 4.2$ mm and $p_2=7$ mm; so the Applicant's " d/L " is Uemura $6.5/18.2=0.4$).

In regard to claim 5, Uemura et al ('580) teach a light emitting tube that has a substantially cylindrical shape (see figure 1).

Response to Arguments

Applicant's arguments filed 1/6/06 have been fully considered but they are not persuasive. In regard to Applicant's argument that the prior art of record fails to teach that both ends of the light emitting tube are sealed by molybdenum pipes in which the electrodes are fixed and held respectively, the Examiner respectfully disagrees. Uemura et al teaches that both ends of the light emitting tube are sealed

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by pipes with which the electrodes are fixed and held respectively, and de Vrijer et al teaches such pipes are usually made from molybdenum. Therefore the prior art of record teaches all the claimed limitations.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

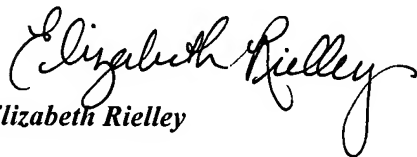
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth A. Rielley whose telephone number is 571-272-2117. The examiner can normally be reached on Monday - Friday 7:30 - 4:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar Patel can be reached on 571-272-2457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Elizabeth Rielley

Examiner
Art Unit 2879

ms 3/19/06
MARICELI SANTIAGO
PRIMARY EXAMINER